

REMARKS

Claims 1, 31-35 and 37 are pending in this application, of which Claims 1, 35 and 37 are in independent form. Non-elected Claim 34 has been canceled, without prejudice or disclaimer of subject matter. Claims 1, 35 and 37 have been amended to define still more clearly what Applicant regards as his invention.

In that Office Action, Claims 1, 31-33, 35 and 37 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,611,288 (Fossum et al.).

The general purpose and nature of the present invention have been discussed adequately in previous papers, and that discussion will not be repeated.

Independent Claim 1 is directed to an image processing apparatus that comprises extraction means for extracting a pixel signal of an image pickup means that has a plurality of pixels, and for determining positional information of defective pixels based on the pixel signal. Also provided are block-forming means for judging whether a plurality of the defective pixels are adjacent to each other on the basis of the positional information of the defective pixels, and for encoding the adjacent defective pixels which are continuously located in one direction by using run-length codes. The run-length codes that are generated are information on the plurality's first coordinate values and lengths. Storage means store the run-length codes, and correction means for correcting said defective pixels by using peripheral pixels of the defective pixels. Also, according to Claim 1, the correction means integrate the run-length codes into region information of the defective pixels which are adjacent to each other, and do not use the other defective pixels based on the regional information.

Among other important features of the apparatus recited in Claim 1, thus, is to encode defective pixels which are continuously located in an X-direction or a Y-direction by using a run-length code that is information on the first coordinate values and lengths of a given plurality of defective pixels, and to analyze the run-length code, and group a plurality of encoded defective pixels based on the analysis. Another feature of the apparatus of Claim 1 is to integrate a plurality of the groups into a region based on the run-length code.

These features make possible a remarkable reduction in the size of information about defective pixels and in the storage region required to store that information. Further, by using run-length code, the integration of the groups of a plurality of encoded defective pixels into a region has been facilitated.

Moreover, since the structure of the apparatus of Claim 1 excludes the other defective pixels from the process of correcting a given group of defective pixels, one obtains an accurate correction. Also, since it is easy to integrate a plurality of groups into a region, effective corrections are obtained.

Applicant strongly urges that none of the cited references discloses or suggests encoding defective pixels which are continuously located in an X-direction or a Y-direction by using a run-length code that is information on the pluralities' first coordinate values and lengths, much less analyzing such run-length code and grouping a plurality of encoded defective pixels which are continuously located in an X-direction or a Y-direction based on such analysis.

Fossum, the prior art applied against the claims, relates generally to an operation of compensating for defective pixels in an image-sensing device. In *Fossum*,

defective pixels are extracted in a block and replaced by either “previously-obtained” or the “last obtained” good pixels. However, *Fossum* does not teach or suggest the features recited in Claim 1 and discussed above.

Applicant notes that the Office Action appears to assume, mistakenly, that coding of the form (R,C,T) as used in *Fossum* is somehow equivalent to the run-length coding recited in Claim 1. The latter maps a pixel group by describing both an initial coordinate value for a pixel and the values for pixels located contiguously to that pixel in the X- and -directions. In contrast, *Fossum* uses a coding system of the form (R,C,T) where R is the row number, C is the column number, and T is a user-defined “area type” that defines “shapes of bad pixels.” *Fossum* does not teach or suggest that T in the (R,C,T) coding format corresponds to the length of pixels along the X- or Y-axes.

For all these reasons, it is believed clear that Claim 1 is allowable over *Fossum*.

Independent Claims 35 and 37 are method and computer memory medium claims, respectively, corresponding to apparatus Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

A review of the other art of record has failed to reveal anything which, in Applicant’s opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of

the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



Leonard P. Diana
Attorney for Applicant
Registration No. 29,296

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200